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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,531	10/16/2003	Kazuaki Tsukakoshi	500.43214X00	5983

24956 7590 11/28/2007
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EXAMINER	
PATEL, JAY P	
ART UNIT	**PAPER NUMBER**
2619	

MAIL DATE	DELIVERY MODE
11/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/685,531	TSUKAKOSHI, KAZUAKI
	Examiner	**Art Unit**
	Jay P. Patel	2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 12 September 2007.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 15-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 15-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (US Patent 5781542).

In regards to claim 15, Tanaka et al. show in figure 4, a block diagram showing a configuration of a mobile station. Figure 4 is inclusive of a controller 20 that controls the transmission (the half above the controller) and reception (the half below the controller) sections. The transmission section anticipates a code-modulation adaptive and variable multiplexing transmission apparatus in which transmission is made such that transmission information data is divided into transmission signals on plural transmission sub-channels. The controller 20 transmits request information such as the type of information to be transmitted, an information amount and a communication mode desired by a user to the base station by using a control signal at the time of starting the communication or during the communication (see column 4, lines 53-57, note: the previously cited section is in regards to figure 2, however since the designated reference numerals are the same in figures 2 and 4, the detailed description is omitted from the description of figure 4; this principle is followed by the examiner in anything that is subsequently cited unless otherwise noted) (a transmission condition identifying circuit which identifies transmission condition information and a transmission unit controlling circuit which controls said transmission unit based on transmission condition information identified by said transmission condition identifying circuit). Further, the controller 20 controls the operation by designating the number of used spread codes and the multi-valued modulation system to the circuits based on the communication mode informed by using the control information from the base station.

The information dividing section 10 divides transmission information output from a transmission information processing section into m pieces at the maximum according to the number of divisions designated from the controller 20 and outputs the transmission information (see column 4, lines 5-9) (a data dividing circuit which divides said transmission information data into transmission signals each for one of said plural transmission sub- channels under the control of said transmission unit controlling circuit).

The channel-encoders 111-11m error correction encode a plurality of information sequences output from the information dividing section 10 and outputs the information sequences (see column 4, lines 9-12) (plural coders, one for each of said plural transmission sub-channels, each for performing an error-correction coding, in parallel, on respective one of said plural transmission signals divided by said data dividing circuit, by using a coding scheme and a coding ratio).

Figure 4 also contains first spread spectrum modulation sections 211-21m (plural primary modulators each for performing a multi-level modulation, in parallel, on respective one of said transmission signals on respective transmission sub-channels acquired from respective ones of said plural coders) and a second spread spectrum modulation section 131-13m (plural secondary modulators each for performing, in parallel, a transmission-band broadening on a multi-level-modulated signal on a transmission sub-channel acquired from each of said plural primary modulators).The radio transmission section 14, up-converts the multi-valued modulation signals, amplifies the modulation signals to predetermined transmission power and transmits the modulation signals from an antenna to the base station (see column 4, lines 22-27) (an addition circuit which adds, for each transmission sub-channel, to associated transmission signal, transmission condition information including a coding scheme and coding ratio of said each coder, a multi-level modulation scheme of said each primary modulator, a band-broadening scheme of said each secondary modulator and the number of said plural transmission sub- channels; a frequency multiplexing circuit which frequency multiplexes band- broadened modulation outputs obtained from respective secondary modulators on said respective transmission sub-channels to output a resultant frequency multiplexed output as a channel for one and the same user). The radio transmission section also anticipates the addition circuit because, in order for the reception side to correctly receive and demodulate the transmitted information, the coding scheme, ration and the modulation schemes would have to be known.

In regards to claim 16, The channel-encoders 111-11m error correction encode a plurality of information sequences output from the information dividing section 10 and outputs the information sequences (see column 4, lines 9-12).

In further regards, to claim 16, the system in Tanaka uses four modulation systems of BPSK, QPSK, 8PSK and 16PSK (see column 5, lines 7-12).

In regards to claim 17, Tanaka et al. show in figure 4, a block diagram showing a configuration of a mobile station. Figure 4 is inclusive of a controller 20 that controls the transmission (the half above the controller) and reception (the half below the controller) sections. The transmission section anticipates a code-modulation adaptive and variable multiplexing transmission apparatus in which transmission is made such that transmission information data is divided into transmission signals on plural transmission sub-channels. The controller 20 transmits request information such as the type of information to be transmitted, an information amount and a communication mode desired by a user to the base station by using a control signal at the time of starting the communication or during the communication (see column 4, lines 53-57, note: the previously cited section is in regards to figure 2, however since the designated reference numerals are the same in figures 2 and 4, the detailed description is omitted from the description of figure 4; this principle is followed by the examiner in anything that is subsequently cited unless otherwise noted) (a transmission condition identifying circuit which identifies transmission condition information and a transmission unit controlling circuit which performs a control based on transmission condition information identified by said transmission condition identifying circuit). Further, the controller 20 controls the operation by designating the number of used spread codes and the multi-valued modulation system to the circuits based on the communication mode informed by using the control information from the base station.

The information dividing section 10 divides transmission information output from a transmission information processing section into m pieces at the maximum according to the number of divisions designated from the controller 20 and outputs the transmission information (see column 4, lines 5-9) (a data dividing circuit which divides said transmission information data into transmission signals each for one of said plural transmission sub- channels under the control of said transmission unit controlling circuit).

The channel-encoders 111-11m error correction encode a plurality of information sequences output from the information dividing section 10 and outputs the information sequences (see column 4, lines 9-12) (plural coders, one for each of said plural transmission sub-channels and responsive to the control of said transmission unit controlling unit, each for selecting an arbitrary one of a plurality of kinds of coding schemes and an arbitrary one of a plurality of kinds of coding ratios and for performing an error-correction coding, in parallel, on respective one of said plural transmission signals divided by said data dividing circuit, by using a coding scheme and a coding ratio).

Figure 4 also contains first spread spectrum modulation sections 211-21m (plural primary modulators responsive to the control of said transmission unit controlling circuit, each for selecting an arbitrary one of a plurality of kinds of multi-level modulation schemes each for performing modulation, in parallel, on respective one of said transmission signals on respective transmission sub-channels acquired from respective ones of said plural coders) and a second spread spectrum modulation section 131-13m (plural secondary modulators responsive to the control of said transmission unit controlling circuit, each for selecting an arbitrary one of a plurality of kinds of band-broadening schemes and for performing, in parallel, a transmission-band broadening on a multi-level-modulated signal on a transmission sub-channel acquired from each of said plural primary modulators). The radio transmission section 14, up-converts the multi-valued modulation signals, amplifies the modulation signals to predetermined transmission power and transmits the modulation signals from an antenna to the base station (see column 4, lines 22-27) (an addition circuit which adds, for each transmission sub-channel, to associated transmission signal, transmission condition information including a coding scheme and coding ratio of said each coder, a multi-level modulation scheme of said each primary modulator, a band-broadening scheme of said each secondary modulator and the number of said plural transmission sub- channels; a frequency multiplexing circuit which frequency multiplexes band- broadened modulation outputs obtained from respective secondary modulators on said respective transmission sub-channels to output a resultant frequency multiplexed output as a channel for one and the same user). The radio transmission section also anticipates the addition circuit because, in order for the reception side to correctly receive and demodulate the transmitted information, the coding scheme, ration and the modulation schemes would have to be known.

In regards to claim 18, figure 4 is also inclusive of a radio receptions section 16 (a frequency separating circuit which frequency-separates a received frequency-multiplexed signal into a modulated signal for each of plural reception sub-channels).

In further regards, the controller 20 transmits request information such as the type of information to be transmitted, an information amount and a communication mode desired by a user to the base station by using a control signal at the time of starting the communication or during the communication (see column 4, lines 53-57) (a transmission condition identifying circuit which identifies transmission condition information in a signal on each reception sub-channel added on the transmission side, said transmission condition information including a modulation scheme and modulation ration of each coder, a multi-level modulation scheme of each primary modulator, a band-broadening scheme of each secondary modulator and the number of said plural transmission sub-channels and a reception unit controlling circuit which controls said reception unit based on transmission condition information identified by said transmission condition identifying circuit). Further, the controller 20 controls the operation by designating the number of used spread codes and the multi-valued modulation system to the circuits based on the communication mode informed by using the control information from the base station.

Figure 4 is also inclusive of demodulation section 161-16m (plural secondary demodulators) and demodulation section 221-22m (plural primary demodulators).

Figure 4 is also inclusive of a channel decoding section 18 having multiple inputs and multiple outputs (plural decoders).

In further regards to claim 18, figure 4 is inclusive of an information extraction section 19 (a data combining circuit).

In regards to claim 19, Tanaka et al. show in figure 4, a block diagram showing a configuration of a mobile station. Figure 4 is inclusive of a controller 20 that controls the transmission (the half above the controller) and reception (the half below the controller) sections. The transmission section anticipates a code-modulation adaptive and variable multiplexing transmission method, in which transmission is made such that transmission information data is divided into transmission signals on plural transmission sub-channels. The controller 20 transmits request information such as the type of information to be transmitted, an information amount and a communication mode desired by a user to the base station by using a control signal at the time of starting the communication or during the communication (see column 4, lines 53-57, note: the previously cited section is in regards to figure 2, however since the designated reference numerals are the same in figures 2 and 4, the detailed description is omitted from the description of figure 4; this principle is followed by the examiner in anything that is subsequently cited unless otherwise noted) (identifying transmission condition information by using a transmission condition identifying circuit and performing a control by using transmission unit controlling circuit which controls said transmission unit based on transmission condition information identified by said transmission condition identifying circuit). Further, the controller 20 controls the operation by designating the number of used spread codes and the multi-valued modulation system to the circuits based on the communication mode informed by using the control information from the base station.

The information dividing section 10 divides transmission information output from a transmission information processing section into m pieces at the maximum according to the number of divisions designated from the controller 20 and outputs the transmission information (see column 4, lines 5-9) (dividing said transmission information data into transmission signals for said plural transmission sub-channels by using a data diving circuit under the control of said transmission unit controlling circuit).

The channel-encoders 111-11m error correction encode a plurality of information sequences output from the information dividing section 10 and outputs the information sequences (see column 4, lines 9-12) (performing error-correction coding, in parallel, on respective one of said plural transmission signals divided by said data dividing circuit, by using a coding scheme and a coding ratio).

Figure 4 also contains first spread spectrum modulation sections 211-21m (plural primary modulators each for performing a multi-level modulation, in parallel, on respective one of said transmission signals on respective transmission sub-channels acquired from respective ones of said plural coders) and a second spread spectrum modulation section 131-13m (plural secondary modulators each for performing, in parallel, a transmission-band broadening on a multi-level-modulated signal on a transmission sub-channel acquired from each of said plural primary modulators).The radio transmission section 14, up-converts the multi-valued modulation signals, amplifies the modulation signals to predetermined transmission power and transmits the modulation signals from an antenna to the base station (see column 4, lines 22-27) (an addition circuit which adds, for each transmission sub-channel, to associated transmission signal, transmission condition information including a coding scheme and coding ratio of said each coder, a multi-level modulation scheme of said each primary modulator, a band-broadening scheme of said each secondary modulator and the number of said plural transmission sub- channels; a frequency multiplexing circuit which frequency multiplexes band- broadened modulation outputs obtained from respective secondary modulators on said respective transmission sub-channels to output a resultant frequency multiplexed output as a channel for one and the same user). The radio transmission section also anticipates the addition circuit because, in order for the reception side to correctly receive and demodulate the transmitted information, the coding scheme, ratio and the modulation schemes would have to be known.

In regards to claim 20, figure 4 is also inclusive of a radio receptions section 16 (frequency-separating a received frequency-multiplexed signal into a modulated signal for each of plural reception sub-channels).

In further regards, the controller 20 transmits request information such as the type of information to be transmitted, an information amount and a communication mode desired by a user to the base station by using a control signal at the time of starting the communication or during the communication (see column 4, lines 53-57) (a transmission condition identifying circuit which identifies transmission condition information in a signal on each reception sub-channel added on the transmission side, said transmission condition information including a modulation scheme and modulation ration of each coder, a multi-level modulation scheme of each primary modulator, a band-broadening scheme of each secondary modulator and the number of said plural transmission sub-channels and a reception unit controlling circuit which controls said reception unit based on transmission condition information identified by said transmission condition identifying circuit). Further, the controller 20 controls the operation by designating the number of used spread codes and the multi-valued modulation system to the circuits based on the communication mode informed by using the control information from the base station.

Figure 4 is also inclusive of demodulation section 161-16m (plural secondary demodulators) and demodulation section 221-22m (plural primary demodulators).

Figure 4 is also inclusive of a channel decoding section 18 having multiple inputs and multiple outputs (plural decoders).

In further regards to claim 20, figure 4 is inclusive of an information extraction section 19 (a data combining circuit).

Response to Arguments

3. Applicant's arguments filed on 9/12/2007 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay P. Patel whose telephone number is (571) 272-3086. The examiner can normally be reached on M-F 9:00 am - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JPP 11/26/07

Jay P. Patel
Examiner
Art Unit 2619

EDAN ORGAD
SUPERVISORY PATENT EXAMINER